CLAIMS

What is claimed is:

1. A method of enhancing the immune response to an IRM compound, comprising:
depositing within a localized tissue region an IRM depot preparation that provides an extended residence time within the localized tissue region.

2. The method of claim 1, wherein the localized tissue region is a breast cancer tumor.

3. The method of claim 1, wherein the localized tissue region is a stomach cancer tumor.

4. The method of claim 1, wherein the localized tissue region is a lung cancer tumor.

5. The method of claim 1, wherein the localized tissue region is a head or neck cancer tumor.

6. The method of claim 1, wherein the localized tissue region is a colorectal cancer tumor.

7. The method of claim 1, wherein the localized tissue region is a renal cell carcinoma tumor.

8. The method of claim 1, wherein the localized tissue region is a pancreatic cancer tumor

9. The method of claim 1, wherein the localized tissue region is a basal cell carcinoma tumor

10. The method of claim 1, wherein the localized tissue region is a cervical cancer tumor

11. The method of claim 1, wherein the localized tissue region is melanoma cancer tumor.

12. The method of claim 1, wherein the localized tissue region is prostate cancer tumor.

13. The method of claim 1, wherein the localized tissue region is ovarian cancer tumor.

14. The method of claim 1, wherein the localized tissue region is bladder cancer tumor.

15. The method of claim 1, wherein the localized tissue region is viral-infected lesion or organ.

16. The method of claim 1, wherein the localized tissue region is includes a vaccine.

17. The method of claim 1, wherein the localized tissue region is a particular organ subject to a disease that is treatable using the IRM compound.

18. The method of claim 1, wherein the IRM depot preparation comprises a lipid-modified IRM.

19. The method of claim 1, wherein the IRM depot preparation comprises an IRM compound attached to support material.

20. The method of claim 1, wherein the IRM depot preparation comprises solid particles of IRM compound.

21. The method of claim 1, wherein the IRM depot preparation comprises an emulsion.

22. The method of claim 1, wherein the IRM depot preparation comprises micelles.

23. The method of claim 1, wherein the IRM depot preparation comprises IRM within a biodegradable polymer matrix.

24. The method of claim 1, wherein the IRM depot preparation comprises IRM compound incorporated into lipid membranes, lipid vesicles, or liposomes.

25. The method of claim 1, wherein the IRM depot preparation provides pulsed delivery of an IRM compound.

26. The method of claim 1, wherein the IRM depot preparation comprises an osmotically driven cylinder.

27. The method of claim 1, wherein the IRM depot preparation is delivered within the localized tissue region using needle injection.

28. The method of claim 1, wherein the IRM depot preparation is delivered within the localized tissue region using surgical implantation.

29. The method of claim 1, wherein the IRM depot preparation is delivered within the localized tissue region using laparoscopic implantation.

30. The method of claim 1, wherein the IRM depot preparation is delivered within the localized tissue region using catheter implantation.

31. The method of claim 1, wherein the IRM depot preparation is delivered within the localized tissue region using a microneedle array.

32. The method of claim 1, wherein the IRM depot preparation is delivered within the localized tissue region using high-velocity particle implantation.

33. The method of claim 1, wherein the IRM depot preparation is delivered within the localized tissue region using an image guiding technique selected from ultrasound, MRI, or real-time X-ray fluoroscopy.

34. The method of claim 1 wherein the IRM is an agonist of at least one TLR selected from the group consisting of TLR6, TLR7, TLR8, TLR9 and combinations thereof.

35. The method of claim 1 wherein the IRM is a selective TLR agonist of TLR 7.

36. The method of claim 1 wherein the IRM is a selective TLR agonist of TLR 8.

37. The method of claim 1 wherein the IRM is a selective TLR agonist of TLR 9.

38. The method of claim 1 wherein the IRM is a TLR agonist of both TLR 7 and 8.

39. The method of claim 1 wherein the IRM is a small molecule immune response modifier.

40. The method of claim 1 wherein the IRM is selected from the group consisting of imidazoquinoline amines including, but not limited to, amide substituted imidazoquinoline amines, sulfonamide substituted imidazoquinoline amines, urea substituted imidazoquinoline amines, aryl ether substituted imidazoquinoline amines, heterocyclic ether substituted imidazoquinoline amines, amido ether substituted imidazoquinoline amines, sulfonamido ether substituted imidazoquinoline amines, urea substituted imidazoquinoline ethers, and thioether substituted imidazoquinoline amines; tetrahydroimidazoquinoline amines including, but not limited to, amide substituted tetrahydroimidazoquinoline amines, sulfonamide substituted tetrahydroimidazoquinoline amines, urea

substituted tetrahydroimidazoquinoline amines, aryl ether substituted tetrahydroimidazoquinoline amines, heterocyclic ether substituted tetrahydroimidazoquinoline amines, amido ether substituted tetrahydroimidazoquinoline amines, sulfonamido ether substituted tetrahydroimidazoquinoline amines, urea substituted tetrahydroimidazoquinoline ethers, and thioether substituted tetrahydroimidazoquinoline amines; imidazopyridine amines including, but not limited to, amide substituted imidazopyridines, sulfonamido substituted imidazopyridines, and urea substituted imidazopyridines; 1,2-bridged imidazoquinoline amines; 6,7-fused cycloalkylimidazopyridine amines; imidazonaphthyridine amines; tetrahydroimidazonaphthyridine amines; oxazoloquinoline amines; thiazoloquinoline amines; oxazolopyridine amines; thiazolopyridine amines; oxazolonaphthyridine amines; thiazolonaphthyridine amines; pharmaceutically acceptable salts thereof; and combinations thereof.

41. The method of claim 1 wherein the IRM is selected from the group consisting of amide substituted imidazoquinoline amines, sulfonamide substituted imidazoquinoline amines, urea substituted imidazoquinoline amines, aryl ether substituted imidazoquinoline amines, heterocyclic ether substituted imidazoquinoline amines, amido ether substituted imidazoquinoline amines, sulfonamido ether substituted imidazoquinoline amines, urea substituted imidazoquinoline ethers, and thioether substituted imidazoquinoline amines; tetrahydroimidazoquinoline amines including, but not limited to, amide substituted tetrahydroimidazoquinoline amines, sulfonamide substituted tetrahydroimidazoquinoline amines, urea substituted tetrahydroimidazoquinoline amines, aryl ether substituted tetrahydroimidazoquinoline amines, heterocyclic ether substituted tetrahydroimidazoquinoline amines, amido ether substituted tetrahydroimidazoquinoline amines, sulfonamido ether substituted tetrahydroimidazoquinoline amines, urea substituted tetrahydroimidazoquinoline ethers, and thioether substituted tetrahydroimidazoquinoline amines; imidazopyridine amines including, but not limited to, amide substituted imidazopyridines, sulfonamido

substituted imidazopyridines, and urea substituted imidazopyridines; 1,2-bridged imidazoquinoline amines; 6,7-fused cycloalkylimidazopyridine amines; imidazonaphthyridine amines; tetrahydroimidazonaphthyridine amines; oxazoloquinoline amines; thiazoloquinoline amines; oxazolopyridine amines; thiazolopyridine amines; oxazolonaphthyridine amines; thiazolonaphthyridine amines; pharmaceutically acceptable salts thereof; and combinations thereof.

42. The method of claim 1, wherein the IRM comprises a 2-aminopyridine fused to a five membered nitrogen-containing heterocyclic ring.

43. The method of claim 1, wherein the IRM depot preparation comprises a CpG IRM.

44. The method of claim 1 wherein the IRM depot preparation further comprises one or more additional active ingredients.

45. The method of claim 28, wherein the active ingredient comprises a vaccine.